

09/904,129

AMENDMENT TO THE CLAIMS

1-15. (Canceled)

16. (Currently Amended) An epitaxial growth method of III-V nitrides alloy, comprising:

spreading liquid comprising group III elements and nitrogen on a substrate;

forming a spin-coated layer by coating the substrate with a thin film comprising group III elements and nitrogen by spinning at selected rotation speeds; and

annealing in a gas atmosphere at a temperature equal to or higher than 700°C so as to crystallize the spin-coated layer; and

growing an III-V nitrides alloy film on the spin-coated film after said annealing.

17. (Currently Amended) The epitaxial growth method of III-V nitrides of claim 16 ~~further comprising annealing in a gas atmosphere~~, wherein the gas atmosphere comprises a gas, wherein the gas comprises nitrogen as an element.

18. (Canceled)

19. (Original) The epitaxial growth method of III-V nitrides of claim 17 wherein the gas atmosphere comprises ammonia.

20. (Original) The epitaxial growth method of III-V nitrides of claim 17 wherein the gas atmosphere comprises radical nitrogen atoms.

09/904,129

21. (Withdrawn)

22. (Withdrawn)

23. (Original) The epitaxial growth method of claim 16 wherein the epitaxial III-V nitrides alloy film comprises a pn junction.

B¹
24. (Original) The epitaxial growth method of claim 16 wherein the epitaxial III-V nitrides alloy film is grown by a method selected from the group consisting of metal organic chemical vapor deposition, molecular beam epitaxy, and hydride vapor phase epitaxy.

25. (Previously Amended) The epitaxial growth method of claim 16 wherein the epitaxial III-V nitrides alloy film is grown by a sequential combination of two or more growth methods selected from the group consisting of metal organic chemical vapor deposition, molecular beam epitaxy, and hydride vapor phase epitaxy.

26. (Withdrawn)

27. (Withdrawn)

28. (Withdrawn)

29. (Withdrawn)

30. (Withdrawn)

09/904,129

31. (Original) The epitaxial growth method of claim 16 wherein the substrate has a cover layer on the surface on which the spin coating is applied.

32. (Previously Amended) The epitaxial growth method of claim 31 wherein the substrate is silicon covered by silicon carbide.

33. (Previously Amended) The epitaxial growth method of claim 30 wherein the substrate is silicon covered by zinc oxide.

34. (Currently Amended) An epitaxial growth method of III-V nitrides alloy, comprising:

B' spreading liquid comprising group III elements and oxygen on a substrate;
forming a spin-coated layer by coating the substrate with a thin film comprising metal group III elements and oxygen by spinning at selected rotation speeds; and
annealing in a gas atmosphere so as to crystallize the spin-coated layer; and
growing an III-V nitrides alloy film on the spin-coated film after said annealing.

35. (Currently Amended) The epitaxial growth method of III-V nitrides of claim 34 ~~further comprising annealing in a gas atmosphere, wherein the gas atmosphere comprises a gas, wherein the gas comprises oxygen as an element.~~

36. (Canceled)

09/904,129

37. (Original) The epitaxial growth method of III-V nitrides of claim 35 wherein the gas atmosphere comprises H_2O gas.

38. (Original) The epitaxial growth method of III-V nitrides of claim 35 wherein the gas atmosphere comprises O_2 gas.

39. (Previously Amended) The epitaxial growth method of claim 34 wherein the spin-coated film is selected from the group consisting of zinc oxide, magnesium oxide, and aluminum oxide.

b1
40. (Original) The epitaxial growth method of claim 34 wherein the substrate is selected from the group consisting of sapphire, SiC, Si, GaAs, InP, GaP, ZnO, MgO, LiGaO₂, and LiAlO₂.

41. (Original) The epitaxial growth method of claim 34 wherein the epitaxial III-V nitrides alloy film comprises a pn junction.

42. (Original) The epitaxial growth method of claim 34 wherein the epitaxial III-V nitrides alloy film is grown by a method selected from the group consisting of metal organic chemical vapor deposition, molecular beam epitaxy, and hydride vapor phase epitaxy.

09/904,129

43. (Previously Amended) The epitaxial growth method of claim 34 wherein the epitaxial III-V nitrides alloy film is grown by a sequential combination of two or more growth methods selected from the group consisting of metal organic chemical vapor deposition, molecular beam epitaxy, and hydride vapor phase epitaxy.

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Currently Amended) The epitaxial growth method of III-V nitrides of claim 34 ~~further comprising wherein said annealing occurs~~ at a temperature of 700°C or more.

49. (Canceled)

50. (Canceled)

51. The epitaxial growth method of III-V nitrides of claim 48 wherein the annealing occurs in a gas atmosphere, wherein the gas atmosphere comprises a gas, wherein the gas comprises oxygen as an element.